

L 11961-65

ACCESSION NR: AP4046410

bilities are simpler than the corresponding expressions for a linearly polarized wave because they contain one less integral and the integrand is expressed in terms of ordinary Bessel functions. This makes it possible to investigate in greater detail the intermediate region between the domain of perturbation theory and the constant-field region. Among the questions that can be clarified are the dependence of the probability of the process on the frequency of the wave if the field intensity is maintained constant, the probability distribution with respect to the number of photons absorbed from the wave or emitted into the wave, and others. "In conclusion we thank V. L. Ginzberg and Ye. L. Feinberg for a discussion, and also Z. S. Maksimova, A. T. Matachun, and L. V. Pariyskaya for the numerical calculations." Orig. art. has: 7 figures and 22 formulas.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute, Academy of Sciences SSSR)

Card 2/3

L 11961-65

ACCESSION NR: AP4046410

SUBMITTED: 02Mar64

ENCL: 00

SUB CODE: NP

NR REF SOV: 004

OTHER: 002

Card 3/3

ACCESSION NR: AP4037591

S/0056/64/046/005/1768/1781

AUTHOR: Nikishov, A. I.; Ritus, V. I.

TITLE: Quantum processes in the field of a plane electromagnetic wave and in a constant field. II

SOURCE: Zhurnal eksper. i teor. fiz., v. 46, no. 5, 1964, 1768-1781

TOPIC TAGS: quantum electrodynamics, quantum process, elementary particle, pi meson, decay probability

ABSTRACT: The effect of the field of a plane electromagnetic wave on quantum processes occurring in the absence of the field are considered. The main features of such a process are analyzed for the particular case of the $\pi \rightarrow \mu + \nu$ decay. A general formula for the probability of the $\pi \rightarrow \mu + \nu$ decay in the field of the wave is investigated for various limiting cases defined by the magnitude of the parameters ea/m and ea/ω (a — wave potential amplitude). When ea/m and ea/ω are less than 1, the formula yields the corresponding

Card 1/2

ACCESSION NR: AP4037591

probabilities of perturbation theory and for $ea/m \gg 1$ the probability $F(\chi)$, $\chi = e\sqrt{F_{\mu\nu}p_\nu}/m^3$ for the process in a constant crossed field ($E \times H = 0, E = H$). Under certain conditions, $F(\chi)$ describes the process even in an arbitrary constant field. A significant dependence of the probability on decay energy is demonstrated. For small values of χ the probability of $\pi \rightarrow \mu + \nu$ decay increases and the probability of $\pi \rightarrow e + \nu$ decay decreases. With decreasing decay energy the sensitivity of the probability to the field strength increases. The exact expression for the probability removes the infrared divergence for photon absorption. A straightforward method of calculating processes occurring in cross fields not connected with the limiting transition $ea/m \rightarrow \infty$ is presented. Orig. art. has: 42 formulas and 2 figures.

ASSOCIATION: FIAN

SUBMITTED: 18Nov63

DATE ACQ: 09Jun64

ENCL: 00

SUB CODE: NP

NO REF SOV: 005

OTHER: 001

Card 2/2

ACCESSION NR: AP4019248

S/0056/64/046/002/0776/0796

AUTHORS: Nikishov, A. I.; Ritus, V. I.

TITLE: Quantum processes in the field of a plane electromagnetic wave and in a constant field. I

SOURCE: Zhurnal eksper. i teor. fiz., v. 46, no. 2, 1964, 776-796

TOPIC TAGS: quantum process, photon emission, pair production, single photon annihilation, electromagnetic wave propagation, crossed fields, laser beam

ABSTRACT: This is the first of two articles devoted to research undertaken in view of the possibility uncovered by the use of powerful laser light beams to investigate different quantum interactions between particles in strong electromagnetic fields. The effect of the field of a plane electromagnetic wave and of a constant electromagnetic field on various quantum phenomena is treated by a general

Card 1/3

ACCESSION NR: AP4019248

method of quantum-transitions which takes exact account of the interaction between the charged particles and the electromagnetic field of the wave. General formulas are obtained for the probabilities of emission of a photon by an electron, pair production by a photon, and single-photon annihilation of an electron and positron in the field of an electromagnetic wave. These expressions are investigated for two limiting cases, depending on the value of the parameter ea/m (e -- electron charge, m -- electron mass, a -- amplitude of potential), which plays a decisive role in this theory. When $ea/m \ll 1$ the expressions for the probability go over into the corresponding perturbation-theory probabilities and the plane wave assumes the role of an individual photon. When $ea/m \gg 1$, the probabilities of the processes reduce effectively to the probabilities of processes in a constant field with orthogonal and equal electric and magnetic components. The probabilities of the processes in this field are investigated in detail. The total probability being a relativistic and gauge-invariant quantity, depends on a single parameter $\chi^2 =$

Card 2/3

ACCESSION NR: AP4019248

$= e^2 (F_{\mu\nu} p_\nu)^2 / m^6$, (p_ν -- particle momentum and $F_{\mu\nu}$ -- generalized field). The conditions under which the exact formulas are applicable are also discussed. It is shown that the results obtained agree with those of others under certain conditions. "In conclusion we are grateful to I. Ye. Tamm, V. L. Ginzburg, and D. A. Kirzhnits for fruitful discussions of this work and for valuable remarks." Orig. art. has: 3 figures and 70 formulas.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR
(Physics Institute, AN SSSR)

SUBMITTED: 30Jul63

DATE ACQ: 27Mar64

ENCL: 00

SUB CODE: PH

NO REF SOV: 007

OTHER: 005

Card 3/3

RITVAY-EMANDITY, K.

Distr: 4E2c(j)

A simple method of preparation for (\pm) -erythro-1-(*p*-nitrophenyl)-2-amino-1,3-propanediol. László Lévai and Katalin Ritvay-Emándity (Forschungslab. Vereinigte Heil- und Nahrungsmittelfabrik, Budapest, Hung.). *Chem. Ber.* 92, 2775-8 (1959). A method for the prepn. of the title compd. (I) from p -O₂NC₆H₄COCH₂CO₂Et (II) was described. II (10 g.), 7.5 g. *N*-bromosuccinimide, and 25 cc. CCl₄ refluxed 1 hr., cooled to 0°, and filtered from 4.2 g. succinimide, the filtrate treated with 15.6 g. *K*-phthalimide and 15 cc. CCl₄ and then with stirring below 25° with 55 cc. HCONMe₂ in portions, stirred 2 hrs. at 0-15°, dild. with 130 cc. (CH₂Cl)₂, poured into 440 cc. H₂O, adjusted with 10% HCl to pH 3, cooled to 0°, and filtered from 7.7 g. phthalimide, the aq. phase of the filtrate washed with two

50-cc. portions (CH₂Cl)₂, the combined org. solns. washed with H₂O, dried 1 hr. with Na₂SO₄, concd. at 40°/20 mm. to 40-50 cc., cooled with ice, filtered from 0.6 g. phthalimide, the filtrate washed with 300 cc. and then with 150 cc. 2% Na₂CO₃, the combined washings acidified with stirring with 10% HCl, and the viscous ppt. stirred 10-20 min. gave 12.8 g. Et *p*-nitrobenzoylphthalimidoacetate (III), m. 100-7° (EtOH). The (CH₂Cl)₂ soln. contg. III from a similar run cooled to 0°, stirred 0.5 hr. at 0° with 300 cc. 2% aq. NaOH, the aq. phase acidified with cooling with 10% HCl,

and the ppt. washed with H₂O yielded 11.8 g. Et *p*-nitrobenzoyl(*o*-carboxybenzamino)acetate (IV), m. 189-90° (repptd. from HCONMe₂ with H₂O). III (10 g.) in 120 cc. (CH₂Cl)₂, cooled to 0°, treated with 530 cc. 1% aq. NaOH, and shaken 0.5 hr., and the aq. phase acidified with 10% HCl yielded 8 g. IV, m. 183-4°. IV (10 g.) in 75 cc. abs. EtOH treated gradually during 0.5 hr. at -5° with 5 g. NaBH₄ in 170 cc. abs. EtOH, stirred 11 hrs. at 0-5°, acidified with 17% HCl to pH 2-3, and the ppt. washed with H₂O gave 1.85 g. (\pm) -erythro-1-(*p*-nitrophenyl)-2-(*o*-carboxybenzamino)-1,3-propanediol (V), m. 187-8°; the filtrate evapd. *in vacuo* at 40-50°, the residue dissolved in 120 cc. H₂O-satd. BuOH, cooled, filtered, basified with 425 cc. 2% NaOH (pH 8.5-9), and stirred 0.5 hr., the aq. phase acidified with concd. HCl to pH 2, concd. *in vacuo* at 35-40° to about 30-40 cc., cooled, filtered, and the residue washed with H₂O and dried gave an addnl. 5.7 g. V, m. 187-8°. IV (10 g.) in 75 cc. abs. EtOH added during 0.5 hr. at -15° to 4.0 g. NaBH₄ and 4.4 g. LiCl in 180 cc. EtOH, stirred 7 hrs. at -10 to -15°, kept overnight, acidified with 17% HCl to pH 2-3, filtered from 4.5 g. NaCl, filtered, and evapd. at 40-50°, the residue dissolved in 180 cc. H₂O-satd. BuOH, the soln. extd. with 500 cc. 2% aq. NaOH, and the aq. ext. acidified, concd. *in vacuo* at 40-50°, and cooled gave 7.6 g. V. V (20 g.), 100 cc. BuOH, and 40 cc. 42% HBr refluxed 20 hrs. and cooled gave 13.85 g. I, m. 203-5°.
P. W. Hoffmann

RITVIN, E., inzh.-podpolkovnik

Important type of independent work by officer candidates.

Voen. vest. 39 no.3:70-72 Mr '59.

(MIRA 12:6)

(Military education)

ANDRONNIKOV, K.S.; BALAKOV, V.V.; BUZHINSKIY, A.N.; BURAGO, A.N.; VENTMAN, L.A.; VISHNEVSKIY, A.A.; VOLOSOV, D.S.; GASSOVSKIY, L.N., professor; GERSHUN, A.A., professor; YEL'YASHEVICH, M.A.; YEVSTROP'YEV, K.S.; GUREVICH, M.M., professor; KOLYADIN, A.I.; KORYAKIN, B.M.; KURITS-KIY, A.L.; PAPIYANTS, K.A.; PROKOP'YEV, V.K., professor; PUTSEYKO, Ye.K.; REZUNOV, M.A.; RITIN', N.E.; SAVOST'YANOVA, M.V., professor; SEVCHENKO, A.N.; SENNOV, N.I.; STOZHAROV, A.I.; FAYERMAN, G.P., professor; PROFILOV, P.P.; TSAREVSKIY, Ye.N., professor; CHEKHMATAYEV, D.P.; YUDIN, Ye.F.; KAVRAYSKIY, V.V., professor; VAVILOV, S.I., akademik, redaktor

[Optics in military science] Optika v voennom dele; sbornik statei. Pod red. S.I.Vavilova i M.V.Savost'ianovoi. Izd. 3-e, zanova perer. i dop. Moskva. Vol.2. 1948. 387 p. (MLRA 9:9)

1. Akademiya nauk SSSR. 2. Sostaviteli - sotrudniki Gosudarstvennogo Opticheskogo instituta (for all except Vavilov and Kavrayskiy)
3. Voenno-morskaya akademiya (for Kavrayskiy)
(Optics)

FITIN', N. E.

"Works on the Nephelometry in the Measuring of Atmosphere Transparency,"

Iz. Ak. Nauk SSSR, Ser. Geograf. i Geofiz., Nos. 1-6, 1942.

RITSENGER, Ye. (Rumynskaya Narodnaya Respublika)

Metrological testing of transducers used in measuring systems.
Izm. tekhn. no.2:37-38 F '65. (MIRA 18:6)

RITZ, Milana, dipl. inz.; SUNIC, Marija, dipl. inz.; FILAJDIC, Mirko, dr.
dipl. inz.

Colorimetric determination of methanol in spirit and brandies.
Kem ind 13 no.4:267-273 Ap '64

1. Biotechnological Section of the Technological Faculty, Zagreb.
2. Member of the Board of Editors, "Kemija u industriji" (for
Filajdic)

RITZ, Milana, inz.; DESATY, Jelena, Mg. ph.; FILAJDIC, Mirko, dr. inz.

Colorimetric methods of determining aldehydes and fusel oil in refined spirit. Kem ind 12 no.6:431-439 Je '63.

1. Biotehnoski odjel, Tehnoski fakultet, Zagreb.
2. Clan Redkcionog odbora, "Kemija u industiji" (for Filajdic).

PYCHA, Bohumil, inz.; RITZ, Zdenek, inz.; SIVALA, Zdenek, inz.

Comparison of the 230 t Maerz-Boelens open-hearth furnace with the 200 t open-hearth furnace of classical design. Pt.2. Hut listy 18 no.8:546-553 Ag '63.

1. Nova hut Klementa Gottwalda, Vyzkumy a zkusebni ustav, Ostrava - Kuncice.

PYCHA, Bohumil, inz.; RITZ, Zdenek, inz.; SIVALA, Zdenek, inz.

Comparing the 230t Maerz-Boelens open-hearth furnace with the 200t open-hearth furnace of classical design. Pt. 1. Hut listy 18 no.5:311-319 My '63.

1. Vyzkumny a zkusebni ustav, Nova hut Klementa Gottwalda, Ostrava - Kuncice.

NITTINGER, I.

Internal checking of a microscope for tools.

P. 38 (METROLOGIA APLICATA) (Bucuresti, Romania) No. 4, Apr. 1957

SO: Monthly Index of East European Accessions (BEAI) 10 Vol. 7, No. 5. 1958

L 54880-65 EWA(d)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(1)/EWA(c) Pf-4
JD/HW RU/0017/64/000/012/0543/0546

ASSOCIATION: AP5017919

AUTHOR: Ritzinger, E. (Engineer)

TITLE: Measuring the temperature of metal roller surfaces

SOURCE: Metalurgia, no. 12, 1964, 543-546

TOPIC TAGS: thermometry, rolling mill

ABSTRACT: In measuring the temperature of moving surfaces, such as those of rolling mill rollers, the error resulting from the friction between the thermo-couple and the roller can be diminished by a device which reduces this friction to a minimum and cancels its effects on the measurement. Orig. art. has: 10 figures, 6 formulas.

ASSOCIATION: Uzina de tabla subtire, Galati (Thin Sheet Metal Plant)

SUBMITTED: 00

ENCL:)00

SUB CODE: MM, TD

NR REF SOV: 000

OTHER: 001

JPRS

Card
1/1

FITZNICHENKO, Yu. V.

Acad. of Sci., Institute of Theoretical Geophysics (-1945-)

"To the Development of the Theory of the Method of Well Seismography,"

Iz. Ak. Nauk SSSR, Ser. Geograf. i Geofiz., No. 1, 1945

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
BC										a-1									
<p>Kinetics of oxidation of the nitrate ion with hydrogen peroxide. E. A. Samoy, A. A. Buzakov, and M. A. Pal. (Sukh. inst. polytech. Ivanovo-Voznesensk, 15, 85-105).—The order of the reaction with respect to H_2O_2 depends on the relative concns. of H_2O_2, NO_3^-, and HNO_3. The reactions are probably: (a) $2HNO_3 + H_2O_2 \rightarrow H_2O_4 + 2H_2O$; $N_2O_4 + H_2O \rightarrow HNO_3 + HNO_2$ (temp. coeff. 2.7); or (b) $N_2O_4 + H_2O \rightarrow N_2O_5 + H_2O$; $N_2O_5 + 2HNO_3 \rightarrow 2N_2O_4 + 2H_2O$ (temp. coeff. 10-20, 2-6). Reaction "superacidic acid" probably $N_2O_5 \cdot H_2O$ reacts with H_2O_2 thus: $N_2O_5 \cdot H_2O + H_2O_2 \rightarrow O_3 + 2H_2O + N_2O_4$.</p>																			
CHEMICAL ABSTRACTS.																			
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8-2-1

Micro-organisms in the chestnut and light-coloured chestnut soils of the Volga Gassan' A.S.S.R., under different cultivation treatments. A. A. Ringer (Pobedy, 1960, No. 4, 76-80).—Chestnut and light-coloured chestnut soils contained larger quantities of micro-organisms than was to be expected from their lack of humus, N, and P. The largest no. of micro-organisms was found in deeply ploughed plots treated with both mineral fertilisers and dung. S. and F. (m)

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED	INDEXED	SERIALIZED	FILED
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

1. TUMBIN, E. V.

2. VAS (89)

3. Polovoz

7. Examining cellulose fiber by electron microscopy, Bun. prom. 21, no. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

1. BORODIN, A. I., KUPCHENKO, V. S., PLETNER, YU. V., RIUKHINA, T. F.
2. USSR (600)
4. Chemistry - Study and Teaching
7. Homemade visual aids for chemistry, Khim. v shkole, no. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

Friction and Wear of Metals in the Presence of Liquid Gases. P. I. Riabinin and Yu. N. Riabinin. (Kislorod, 1946, No. 4, pp. 35-41; [Abstract]. Engineers' Digest (London), 1948, vol. 9, May, p. 146).

Q

26a-59. Friction and Wear of Metals in the Presence of Liquid Gases. P. I. Riumin and Yu. N. Riabinin. *Engineers Digest*, (American Edition), v. 5, May-June, 1948, p. 186. Translated and condensed from *Kislorod*, (Oxygen), no. 4, 1946, p. 35-41. Experiments to determine coefficients of friction and resistance to wear of various metals.

ASME-51A METALLURGICAL LITERATURE CLASSIFICATION

SECTION 1: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SECTION 2: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SECTION 3: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SECTION 4: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SECTION 5: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SECTION 6: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SECTION 7: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SECTION 8: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SECTION 9: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SECTION 10: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

113

Metal Alloys

Friction and Wear of Metals in the Presence of Liquid Gases.
P. I. Rumin and L. U. N. Rabinin. *Kivshat* (U.S.S.R.), No.
4, 1946, pp. 35-41. *The Engineers' Digest*, Vol. 5, No. 4, May-
June, 1948, p. 186.

18

FRICITION AND WEAR OF METALS IN THE PRESENCE OF LIQUID GASES.
P.T. Riumin and Yu. N. Riabinin. (Kislod, 1946, No. 4, pp.
35-41 (In Russian) : (Abstract) Engineer's Digest, New York,
1948, vol. 5, May-June, p. 186).

ASME-ISA METALLURGICAL LITERATURE CLASSIFICATION

1. BABIN, F. RIUTOV, D.
2. USSR (600)
4. Golovkin, N. A.
7. Shortcoming of a valuable book("Refrigeration of food products." N.A. Golovkin, G. B. Chizhov. Reviewed by Khol. tekhn. 29 no. 4 '52

9. Monthly List of Russian Accessions. Library of Congress, March 1953. Unclassified.

KONOVALOV, G.V.; KANTOROVICH, R.A.; BUZINOV, I.A.; RIUTOVA, V.P.

Experimental investigations into rage and rabies in polar foxes, natural hosts of the infection. II. An experimental morphological study of rabies in polar foxes. Acta virol. (Praha) [Eng] 9 no.3:235-239 My'65.

1. Department of Morbid Anatomy, Institute of Experimental Medicine, U.S.S.R. Academy of Medical Sciences, Leningrad; Institute of Virology, U.S.S.R. Academy of Medical Sciences, Moscow; and Scientific Research Institute of Fur Animal and Rabbit Husbandry, Ministry of Agriculture of the Russian S.F.S.R., Moscow.

RIVADIN

Organizatsiia i eksploatatsiia vozdushnoi linii Khabarovsk-Sakhalin. [Organization and exploitation of the Khabarovsk-Sakhalin air line]. (Samolet, 1930, no. 5, p. 36-38, illus., map).

DLC: TL504.S25

SO: Soviet Transportation and Communications. A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

RIVCHUN, M.B.

3592. RIVCHUN, M.B. Znatnaya Doyarka Zoya Generalova (Kolkhoz Kresnaya Zvezda Kashir. Rayona). M., 1954. 12s s ill. 22sm. (Mosk. obl. Otd-niye Vsesoyuz o-va Po Rasprostranenigu Polit. i Nauch Znaniy). 1,000ekz. Bespl.- Art. Ukazan V Kontse Teksta.-(54-57347) 636.2.083st (47.31)

SO: Knizhnaya Letopis', Vol. 3, 1955

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<p>F</p> <p>2369. HIGH -SPEED OXIDATIVE GASIFICATION OF GASOLINE. Dementlova, M. I., Riven, A. and Rudkovsky, D. M. (J. Appl. Chem. (U.S.S.R.) 1947, 19, No. 7, 631-650).</p> <p>The process previously proposed by one of the authors was experimentally investigated. The basic factors, such as temperature, reaction time, and oxygen concentration were analyzed and their effects on the character of the process, composition of final products, and heat balance were determined.</p>																			
ASR-5LA METALLURGICAL LITERATURE CLASSIFICATION										E-27-11-11-11-11									
1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									

2369. High-speed oxidative gasification of gasoline. Damoniev, M.I., Riven, A.
and Rudkovsky, D.M. (J. Appl. Chem (U.S.S.R.) 1947, 12, No. 7, 631-650).

The process previously proposed by one of the authors was experimentally investigated. The basic factors, such as temperature, reaction time, and oxygen concentration were analysed and their effects on the character of the process, composition of final products, and heat balance were determined.

immediate source clipping

RIVCHUN, M.

Improve veterinary service. Voenn. znaniya, 39 no. 4: 38 Apr '63.
(MIRA 16:6)

1. Predsedatel' veterinarnoy sekcii Moskovskogo gorodskogo
kluba sluzhebnogo sobakovodstva.
(Veterinary service, Military)

REDACTED, kand. veter. nauk; IVANOVTSSEV, P.V., kand.
veter. nauk; FELOTOV, V.G., red.; RIVKIN, Ye.M., red.

[Clinical aspects, pathogenesis, treatment, and veteri-
nary hygiene expertise in burns of farm animals] Klinika,
patogenez, lechenie i veterinarno-sanitarnaya ekspertiza
pri ozhogakh sel'skokhoziaistvennykh zhivotnykh. Mo-
skva, Rossel'khozizdat, 1965. 67 p. (MIRA 16:7)

ZIMEL, H.; RIVENZON, A.; DOBRESCU, A.

On the problem of the innervation of tumors. Report III.
Comparative investigation on cholinergic metabolism in
experimental tumors. Neoplasma, Bratisl. 7 no.1:11-17 '60.

1. Institut endokrinologii imeni K.I. Parkhoma Akademii ENR.,
Bukharest, Rumyniya.

(NEOPLASMS metab.)

(ACETILCHOLINE metab.)

(CHOLINESTERASE metab.)

ZIMEL, H.; RIVENZON, A.; MACRINEANU, A.

Effects of the concomitant administration of T. E. M. and folliculine on the development of Walker-256 adenocarcinoma. Neoplasma 8 no.3:263-268 '61.

1. Institute of Endocrinology "C. I. Parhon" of the Academy of the R.P.R., Bucarest, Roumania.

(ADENOCARCINOMA exper) (NEOPLASMS exper)
(TRIETHYLENE MELAMINE pharmacol)
(ESTROGENS pharmacol)

ZIMEL, H.; CATARGI, NICOLESCU, A.¹; RIVENSON, A.

The influence of hypothalamic lesions on experimental tumorigenesis.
I. Intratesticular development of Walker's 256 adenocarcinoma in rats
with hypothalamic lesions. Rumanian M Rev. no.3:49-50 JI-S '60.
(HYPOTHALAMUS physiology) (ADENOCARCINOMA experimental)
(NEOPLASMS experimental)

RUSU, V., dr.; VLADOIANU, I.R., dr.; CIOROIANU, Natalia, dr.; MUSCAN, S.,
dr.; FAUR, G., dr.; POPESCU, P. dr.; BASTON, Ileana; TOTESCU, E.,
dr.; RIVENSON, Melania, dr.

Observations on several vases of salmonellosis rarely found in
our country. Microbiologia (Bucur) 9 no.5:417-424 S-0 '64

1. Lucrare efectuata in Institutul de microbiologie, parazitolo-
gie , epidemiologie "Dr.I. Cantacuzino" in colaborare cu
Inspectiile de Stat pentru igiena si protectia muncii din Iucures-
ti.

ZIMEL, H.; RIVENZON, A.; MACRINEANU, Ana

Dynamics of the testicular changes in rats with experimental unilateral cryptorchidism. Stud. cercet. endocr. 13 no.2:225-235 '62.
(CRYPTORCHISM pathology)

RIVENZON, A.S.

Spermatogenesis. I. Experimental study of the process of spermatogenesis and cellular neogenesis. Bul.stiint., sect. med.6 no.4: 1043-1083 Oct-Dec '54.

(SPERMATOZOA

spermatogenesis & cellular neogenesis, in various
exper. animals)

(TESTES, physiology

spermatogenetic funct. of amorphous chromatophil
substance of seminiferous tubules)

RIVES, L.S., inzh.

Backfire indicator for high-voltage mercury-arc rectifiers. Vest.
elektroprom. 29 no. 8:31-32 Ag '58. (MIRA 11:8)
(Mercury-arc rectifiers)

CZECHOSLOVAKIA/Chemical Technology. Chemical
Products and Their Applications.
Fertilizers.

H

Abs Jour : Ref Zhur-Khimiya, No 6, 1959, 20043

Author : Gregor, Mikulas; Rives, Ladislav

Inst : -

Title : The Utilization of Calcium Which is Con-
tained in Native Waste Raw Material.

Orig Pub : Nasa veda, 1958, 5, No 5, 199-202

Abstract : Dust carried off from a shaft cement-roa-
sting furnace contains 20.91-40.66 percent
K₂O; the latter is introduced into the
batch with clay and coke. It predominates
in the form of carbonate (to 30 percent),
it is contained in sulfate form in a lesser
quantity (to 8 percent), and K sulfide (to

Card : 1/2

AUTHOR: Rives, L.S. (Engineer)

SOV/110-58-8-9/26

TITLE: A Back-fire Indicator for High-voltage Mercury-arc-rectifiers (Ukazatel' obratnykh zazhiganiy dlya vysokovol'tnykh rtutnykh vypryamiteley)

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, Nr 8, pp 31-32 (USSR)

ABSTRACT: Available back-fire indicators for installation in traction substations sometimes give false indications when the backfire is followed by very heavy current in the forward direction. In a recently-developed back-fire indicator all or part of the rectified current is passed through the coil of a sensitive high-speed polarised relay. The circuit, the main part of which is the polarised relay type RP-7, is given in Fig 1 and the operation of the indicator is described. A back-fire operates the relay and lights a signal lamp; the relay remains in this position even if a heavy forward current occurs immediately after back-fire. The relay may be reset by hand. A sensitivity characteristic of the back-fire indicator, given in Fig 2, was taken when the relay was subjected to a single voltage impulse consisting of a part of a half-period of 50 c/s sinusoidal voltage. The

Card 1/3

SOV/110-58-8-9/26

A Back-fire Indicator for High-voltage Mercury-arc-rectifiers

vertical axis gives the amplitude of the impulse and the horizontal its duration. The sensitivity falls off rapidly if the impulse is very short. However, in practice most back-fires last longer than 120° electrical. A simpler version of the back-fire indicator is a standard impulse counter SB-IM/50 or SB-IM/100 provided with a current winding. The counter is directly connected to a shunt in the valve cathode circuit, and reacts only to impulses of a given direction. The main difference between this indicator and the one already described is that if the back-fire lasts for several periods it will record the total number of back-fires, whereas the previous one locks on at the first back-fire and counts no more until reset. Both types of indicator were tested on the rigs of the All-Union Electro-technical Institute, using high-voltage mercury-arc-rectifiers intended for d.c. transmission. The back-fire current amplitude was 2,000 - 3,000 A, and the current duration was 120 - 180°

Card 2/3

SOV/110-58-8-9/26

A Back-fire Indicator for High-voltage Mercury-arc-rectifiers

electrical. The indicators clearly recorded back-fires. Both constructions, but especially that of the impulse counter, may be successfully applied in traction rectifier substations and other mercury-arc-rectifier installations.

There are 3 figures.

SUBMITTED: September 16, 1957

1. Rectifiers--Equipment
2. Rectifiers--Performance

Card 3/3

AUTHOR: Rives, L.S., Engineer

110-58 -5-14/25

TITLE: An Instrument for Measuring the Voltage-drop in the Arc of Mercury-arc-rectifiers (Pribor dlya izmereniya padeniya napryazheniya v duge rtutnykh vypriamiteley)

PERIODICAL: Vestnik Elektromyshlennosti, 1958, Vol 29, Nr 5, pp 43 - 44 (USSR).

ABSTRACT: It is very useful to be able to measure the voltage-drop in the arc of a rectifier but this cannot be done with the usual cathode-ray oscillograph because the position of the zero line cannot be determined. Electro-mechanical oscillograph can be used but is slow and cumbersome. This article describes an instrument which is effective for rectifiers with anode voltages up to 100 V. A circuit diagram of the instrument is given in Fig.1. The basis is a high-speed polarised relay type RP-5 which uses a peak voltmeter to measure the voltage drop over small sections of the anode-cathode voltage curve. The operation of the instrument and the measuring procedure are described. First, the instrument is phased-out with a cathode-ray-oscillograph. An oscillogram of the voltage between the anode and the cathode of a sealed ignitron is shown in Figure 2: a phase-shifting device is used to obtain the zero Card1/2 line and it can be moved to any part of this voltage cycle.

110-58-5-14/25

An Instrument for Measuring the Voltage-drop in the Arc of Mercury-arc-rectifiers

Measurements were made with a voltmeter having a high internal resistance of the order of 5 000 Ω/V . Displacing the zero point by changing the phase of closing the relay contacts allows a relationship to be obtained between the voltage drop in the arc of a mercury-arc-rectifier and the position in the cycle. The instrument reads voltage directly and is a convenient supplement to a cathode-ray-oscillograph. It can be used for other measurements, particularly on non-sinusoidal voltages and currents.

There are 2 figures.

ASSOCIATION: Vsesoyuznyy elektrotekhnicheskiy institut (All-Union
Electro-technical Institute)

Card 2/2

RIVMS, L.S., inzh.; RUBINSHTEYN, I.L., kand. tekhn. nauk.

Light-ray control of mercury-arc rectifiers. Vest. elektroprom. 29
no.3:18-23 Mr '58. (MIRA 11:4)

1. Vsesoyuznyy elektrotekhnicheskiy institut.
(Mercury-arc rectifiers) (Electric controllers)

RIVES, L.S., inzh.

Instrument for measuring the voltage drop in the arc of mercury.
Vest. elektroprom. 29 no. 5:43-44 My '58. (MIRA 11:7)

1. Vsesoyuznyy elektrotekhnicheskiy institut.
(Mercury-arc rectifiers--Measurements)

110-3-4/22

RIVES
AUTHORS: Rives, L.S., Engineer, and Rubinshteyn, I.L., Candidate
of Technical Sciences.

TITLE: The Control of High-voltage Mercury-arc Rectifiers by light
Rays (Svetovoye upravleniye vysokovol'tnymi rtutnymi
vypryamitelyami)

LITERATURE: Vestnik Mashinostroyeniya, 1958, vol.29, no.3,
pp. 18 - 23 (USSR).

ABSTRACT: High-voltage mercury-arc valves for d.c. transmission have
auxiliary supplies and control equipment in a special panel.
The auxiliary supplies are at the potential of the cathode of
the valve and may, therefore, be at high potential to earth. At
sub-stations on the Stalingrad-Donbas transmission line, this
voltage may exceed 400 kv. Therefore, auxiliary supplies are
made through insulating transformers. Similar transformers are
provided for the grid control impulses. Transmission of the
control impulse through two stages of insulating transformers
distorts the wave-form and gives rise to losses. Control panels
used on the Kashira-Moscow line, which operates at 200 kv, were
operated manually with insulated rods, but this will not be
possible in equipment at 400 kv.

It was accordingly proposed to operate the equipment by light
rays at a range of 3 or 4 metres to give safe clearances. This
Card 1/5

110-3-4/22

The Control of High-voltage Mercury-arc Rectifiers by Light Rays

method may be used to control either individual valves or groups of valves, and permits of simplified insulating transformers.

Light ray control of switching operations is then described. The simplest circuit for the control of switching operations is given in Fig.1. The light beam is focussed on a photo-cell, reducing its resistance and increasing the current in the relay coil. This simple circuit has a number of disadvantages; for example, the light has to be on all the time and lamp failure could have unfortunate consequences. Another possible circuit is given in Fig.2. The light projector can be arranged to give two different light impulses of different duration, which respectively operate closing and opening relays. In this circuit, the photo-cell passes operating current only whilst a control signal exists; otherwise, it passes only a small current. It is usually necessary to control two and more circuits and so the number of light channels is increased. However, only one intermediate delay relay is used for all channels.

Unlike manual control, remote control by light rays may be used to switch on or off individual circuits simultaneously in the

0-12/5

The Control of High-voltage Mercury-arc Rectifiers by Light Rays 110-3-4/22

valves of all rectifiers of one bridge, or even on all the rectifying sets of a sub-station. Besides transmitting signals from low-voltage to high, the method can be used to transmit signals from the rectifier to the control board. Light-impulse signalling is then described. Its function is to give on the control panel an indication of abnormal conditions in any circuit. The operating principle of light-impulse signalling are shown by circuits in Fig.3, (transmitting part), and Fig.4 (receiving parts). The operating principles of the two parts are explained. The transmission of a grid control impulse by a modulated light ray is discussed with reference to the corresponding block circuit diagram for a d.c. line sub-station in Fig.5 and the operation of the system is described. The primary impulse generator comprises six peaking transformers which give six primary electrical impulses in synchronism with the system frequency and spaced at 60° electrical. These impulses are passed to a transmitting block which controls the impulses of the light source. The short light impulses from this source occur at a frequency of 50 c.p.s. and are transmitted to the valve by an optical system. The resulting electrical signals

Card3/5

UO-3-4/22

The Control of High-voltage Mercury-arc Rectifiers by Light Rays

For all photo-cell based grid signal generator which produce the signals required to control the grid of the high-voltage valve. A special long-life signal lamp was developed under the guidance of I.Sh. Iltin and I.S. Marshak; its supply circuit is given in Fig. 6 and explained. Photo-cells have considerable inertia which is mainly revealed when the light flux is diminishing. When the light signal has ended the photo-current takes several milli-seconds to fall to the minimum value. As grid control of mercury-arc rectifiers requires a steep-fronted control signal, semi-conducting photo-resistances may be advantageous.

The circuit diagram of the grid signal generator is given in Fig. 7. This system makes use of a powerful electronic lamp and operates more stably than the usual thyatron-capacitor circuit; its operation is fully explained. The wave-shape and the principal characteristics of the output light signal are given in Fig. 8, which was obtained with a load of 100 Ω . Output voltage and the load resistance are related in Fig. 9.

The method of transmitting a control signal by light waves is better than using insulating transformers in that the signal wave-shape and amplitude can be suitably controlled; the insulation is perfect and there is no phase displacement. For

Card-75

110-3-4/22

The Control of Flight-vehicle Maneuvers by Means of Light Rays

On substitution of the light channel, the impulse lamp could be replaced by a germanium light modulator. In this case, the light source is an incandescent lamp, the light from which passes through a germanium diode. This system was investigated by Ye.I. Ushakov. The method of control by light rays can of course be applied to other kinds of equipment. Engineers V.A. Bogomolov and Ye.L. Gusev participated in the development of the equipment that is described.

There are 9 figures and 2 Russian references

ASSOCIATION: All-Union Electro-technical Institute (Vsesoyuznyy elektrotekhnicheskii institut)

SUBMITTED: July 15, 1957

AVAILABLE: Library of Congress

C no 5/5 1. Rectifiers-Control 2. Impulse generators

SHAPOVALENKO, Sergey Grigor'yevich; RIVSS, Yu.E., red.; GARMEK, V.P.,
tekhn.red.

[Polytechnical training in Soviet schools today] Politeknicheskoe
obuchenie v sovetskoi shkole na sovremennom etape. Moskva, Izd-vo
Akad.pedagog.nauk RSFSR, 1958. 174 p. (MIRA 11:3)

1. Chlen-korrespondent APN (for Shapovalenko)
(Technical education)

DUBOV, Aleksandr Grigor'yevich; RIVES, Yu.Ye., redaktor; SOKOLOVA, P.Ya.,
tekhnicheskiiy redaktor.

[Practical work in school workshops; manual for workshop teachers of
grades five to seven] Prakticheskie zanatiia v uchebnykh masterskikh;
metodicheskoe posobie dlia prepodavatelei truda V-VII klassov. Moskva,
Izd-vo Akad.pedagog.nauk RSFSR, 1957. 204 p. 127 p. of diagrams.

(MLRA 10:5)

(Manual training)

SHABALOV, Sergey Maksimovich, professor, doktor pedagogicheskikh nauk;
LYASNIKOV, I.A., redaktor; RIVES, Yu.Ye., redaktor; MISHCHENKO, A.I.,
tekhnicheskii redaktor

[General technical training] Politekhnikeskoe obucheniye.
Moskva, Izd-vo Akad. pedagog. nauk RSFSR, 1956. 727 p. (MLRA 10:4)
(Technical education)

SHABALOV, Sergey Maksimovich, professor, doktor pedagogicheskikh nauk;
LYASHNIKOV, I.A., redaktor; RIVKS, Yu.Ye., redaktor; SOKOLOVA, R.Ya.,
tekhnicheskii redaktor

[Polytechnical education] Politekhnikeskoe obucheniye. Moskva,
Izd-vo Akademii pedagog. nauk RSFSR, 1956. 727 p. (MLRA 10:4)
(Technical education)

S/081/62/COC/009/072/075
B171/B144

AUTHORS: Petzold, Werner, Rivier, Arthur

TITLE: Plasticizers for natural and synthetic rubbers

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 9, 1962, 650, abstract
9P446 (Eastern German Patent 21286, May 15, 1961)

TEXT: Polyesters, obtained by polycondensation of castor^{""} oil acids at high temperature are used as plasticizers and softeners for natural and synthetic rubbers. These also improve the resistance of vulcanizates to ageing. [Abstracter's note: Complete translation.].

Card 1/1

RIVILIS, A., prepodavatel'

Students should have a thorough knowledge of industrial hygiene.
Prof.-tekhn.obr. 19 no.11:20 N '62. (MIRA 16:2)
(Industrial hygiene—Study and teaching)

ROTKOP, L.L.; LIBERMAN, I.G.; RIVILIS, A.A.

Using the mathematical statistics method for determining the
dynamic characteristics of a bakery oven. Izv.vys.ucheb.zav.;
pishch.tekh. no.1:114-121 '63. (MIRA 16:3)

1. Ukrainskiy proyektno-konstruktorskiy institut pishchevoy
promyshlennosti, laboratoriya dinamiki.
(Ovens) (Mathematical statistics)

8 (6)

SOV/91-59-4-15/28

AUTHOR: Rivilis, A. A., Engineer

TITLE: The Checking of Exciter Coil Connections of DC Machines
by Alternating Current (Proverka peremennym tokom
soyedineniya obmotok возбуждениа машин постойаnnого
тока)

PERIODICAL: Energetik, 1959, Nr 4, pp 21 - 22 (USSR)

ABSTRACT: The author describes a method for checking the correct
connection of dc motor coils using 220 volts ac and a
voltmeter. He explains this method by using one example,
where a 6.5 kw dc shunt motor was checked.
There are 2 diagrams.

Card 1/1

RIVILIS, A.A., inzh.

Testing the connections of d.c. machinery exciter windings by
means of alternating current. Energetik 7 no.4:21-22 Ap '59.
(MIRA 12:5)

(Electric machinery--Testing)

RIVILIS, D., inzh.; KUCHEROVSKIY, O., inzh.

Adjustment of the DSP-2# dryer and experimental drying of grain.
Muk-elev. prom. 24 no.6:20 Je '58. (MIRA 11:7)

1. Montazhno-naladochnoye upravleniye Vsesoyuznogo tresta Spetsselevator-
mel'stroy.

(Grain--Drying)

MUZALEVSKIY, O.G.; RIVKIN, A.A.

Searching for the optimal operating conditions of the 800 rail
and structural steel mill. [Sbor. trud.] TSNIICHM no.29:128-137
'63. (MIRA 17:4)

117 AND 120 CORDS

120 AND 121 CORDS

PROCESSING AND PROPERTY INDEX

27

RIVIN, A.

High-Speed Oxidative Gasification of Gasoline. (In Russian.) M. I. Dementieva, A. Rivin, and D. M. Rudkovsky. *Journal of Applied Chemistry* (U.S.S.R.), v. 19, no. 7, 1946, p. 631-650.

The process previously proposed by one of the authors was experimentally investigated. The basic factors, such as temperature, reaction time, and oxygen concentration were analyzed and their effects on the character of the process, composition of final products, and heat balance were determined.

A.S.T.M. METALLURGICAL LITERATURE CLASSIFICATION

117 AND 120 CORDS

120 AND 121 CORDS

117 AND 120 CORDS

120 AND 121 CORDS

RM/41
103
3-4 etc
1 Rnd
kill any
RM/
The behavior of particles with a spin in crossed constant and variable magnetic fields. *I. Rysin, Zhur. Eksp. i Teor. Fiz. 31, 733-4 (1956).* A precise math. soln. is given for the problem of the behavior of particles in crossed const. and variable magnetic fields. *I. Rysin Teach.*

RIVIN, A.I.

19 19
BEHAVIOR OF PARTICLES WITH NONZERO SPIN IN
CROSSED CONSTANT AND VARYING MAGNETIC FIELDS.
A. I. Rivin. Soviet Phys. JETP 4, 819-20(1957) May.
An exact solution for the behavior of particles of arbitrary spin in crossed constant and varying magnetic fields is given. (M.H.R.)

4
1-HE 32
1-PM7

gr PM7

Rivin, A. I.

1-RMR

19 19 530:145
✓ 1957. THE BEHAVIOUR OF PARTICLES WITH SPIN IN
CROSSED CONSTANT AND VARYING MAGNETIC FIELDS. *Plip*
A.I. Rivin.
Zhurnal teor. Fiz., Vol. 31, No. 4(10), 733-4 (1956). In Russian.
An exact solution of this problem is given. W.O. Lock

3
1 RMR

RMR MT

RIVIN, A.I.
 SUBJECT USSR / PHYSICS
 AUTHOR RIVIN, A.I.
 TITLE The Behavior of Particles with Spin Crossing Each Other in a Constant and in a Variable Magnetic Field.
 PERIODICAL Zhurn.eksp.i teor.fis, 31, fasc.4, 733-734 (1956)
 Issued: 1 / 1957

CARD 1 / 3

PA - 1785

The present work provides an exact solution of this problem for particles with any spin. The wave equation of the particle in the magnetic field can be represented as follows: $i \hbar \frac{d\psi}{dt} = - (\hat{H}_M) \psi$. Here ψ denotes the wave function (with $2J + 1$ components) of the particle, and \hat{M} - the vector operator of the magnetic moment, which is proportional to the mechanic moment. The case is investigated here in which the exterior magnetic field acting upon the particle consists of a constant field H_0 (in the direction of the x-axis) and a circularly polarized field with the components $H_x = H_1 \cos \omega t$ and $H_y = H_1 \sin \omega t$. In this case the above wave equation is:

$$i \hbar \frac{d\psi}{dt} = - (\mu/2) H_1 \left[e^{i\omega t} (\hat{J}_x - i\hat{J}_y) + e^{-i\omega t} (\hat{J}_x + i\hat{J}_y) \right] \psi - \mu H_0 \hat{J}_z \psi$$
 Here \hat{J} denotes the operator of the moment of the momentum and μ - the magnetic moment of the particle.
 Here we go over to a system of reference which rotates round the original z-axis with the frequency ω . The following connection then applies for the com-

Žurn.eksp.i teor.fis, 31, fasc.4, 733-734 (1956) CARD 2 / 3 PA - 1785
ponents Ψ'_m and Ψ_m in the new and in the old system of reference respectively:

$\Psi_m = e^{im\omega t} \Psi'_m$ ($-J \leq m \leq J$). By inserting this expression into the above equation it follows that: $i\hbar d\Psi'/dt = (-\hat{H}_M + \hat{\Omega} \cdot \hat{J})\Psi'$. This equation contains the following components (taken along the axis) of the magnetic field vector: $\vec{H} : H_x = H_1, H_y = 0, H_z = H_0$; $\vec{\Omega}$ is the vector of the angular velocity $\omega \vec{k}$, where \vec{k} denotes the unit vector along the z-axis. The operator in the last part of the last equation does not depend on time and contains a term $\omega \hat{J}$, which is the operator of "centrifugal energy". This term formally corresponds to centrifugal energy in classical mechanics.

The last equation may thus be considered as a wave equation in a non-inertial (rotating) system of reference. This equation assumes its most simple shape in a non-inertial system of reference in which the direction of the vector

$-\mu \vec{H} + \vec{\Omega}$ is used as z-axis. For the absolute value of s it applies that:
 $s = \sqrt{\omega^2 + \omega_0^2 - 2\omega\omega_0 \cos \mathcal{N}}$, $\omega_0 = \mu H_0/\hbar$. For the angle β enclosed between this vector (spin vector) and the original direction of the z-axis it applies that:
 $\beta = \arcsin \omega_0 \sin \mathcal{N} / \sqrt{\omega^2 + \omega_0^2 - 2\omega\omega_0 \cos \mathcal{N}}$. Here it is true that $\tan \mathcal{N} = H_1/H_0$.

Žurn.eksp.i teor.fis,31,fasc.4, 733-734 (1956) CARD 3 / 3 PA - 1785

The solution of the wave equation repeatedly mentioned may immediately be written down: The probability of the transition of the system from the state with the magnetic quantum number m_0 into the state with m is, in the laboratory system:

$$R_{m_0 m} = \left| \sum_{m'} G_{m' m_0} \{0, \beta, \pi\} G_{m m'} \{0, \beta, \pi\} e^{i m' \pi} \right|^2$$

This expression is specialized for $J = 1/2$.

INSTITUTION:

RIVIN, A.M.; PRONENKO, L.Z.; CHERPAK, V.A.

Metrological equipment for acoustical measurements at the
All-Union Scientific Research Institute of Physics and Radio
Engineering. Trudy inst. Kom. stand., mer. i izm. prib. no.61:
7-22 '62. (MIRA 16:4)

(Microphone) (Acoustical engineering)

RIVIN, A.N.

Experimental investigation of forces acting on strings and
sounding boards following the percussion of piano hammers.
Trudy Kom. po akust. 8:51-69 '55. (MIRA 8:8)

1. Fabrika klavishnykh instrumentov "Krasnyy Oktyabr'".
(Music--Acoustics and physics) (Piano)

RIVIN, A. N.

"Study of the Process of Percussive Generation of Vibrations in the Piano String." Inst of Acoustics, Acad Sci USSR, Leningrad, 1955. (Dissertation for the Degree of Candidate of Technical Sciences)

SO: M-972, 20 Feb 56

NAVIN, N. N.

"Improved Accuracy of Calibration of Measuring Microphones."

paper presented at the 4th All-Union Conf. on Acoustics, Moscow, 26 May - 2 Jun 58.

SOV/115-52-5-29/36

AUTHOR: Rivin, A.N.

TITLE: Systematic Errors in Reproducing a Sound Pressure Unit
(Sistematicheskiye pogreshnosti vosproizvedeniya yedinitsey zvukovogo davleniya)

PERIODICAL: Izmeritel'naya tekhnika, 1958, Nr 5, pp 71-73 (USSR)

ABSTRACT: In 1955 VNIIFTRI developed a method for measuring sound pressure on the microphone diaphragm, by measuring the deflection angle of a Raleigh Disc. When testing the equipment, important, systematic errors were found, the origins of which are in factors which disturb the conditions necessary to obtain plane standing waves. From among these factors, the irregularity of the tube internal cross section is examined here as well as damping of the sound in the tube. In current equipment the tube's inside cross section can be modified at the site of the Raleigh disc. The results of computations were checked experimentally with and without inserts.

Card 1/2

The measurement results agree with calculations within

SOV/115-~~3~~5-29/86
Systematic Error in Reproducing a Sound Pressure Unit

the limits of normal errors of 0.2 db. Finally, the effect sound damping in the tube was investigated. The measurement results show that the ensuing errors increase with a rise in frequency. They can reach 1% for a large tube ($\varnothing 50$ mm), for a small tube ($\varnothing 15$ mm) at frequencies of 8-12 kc, these errors may rise to 3% which exceeds the permissible tolerance of sound pressure reproduction. There are 2 graphs, 1 diagram and 2 Soviet references.

Card 2/2

24(1)

SoV/46-5-3-11/32

AUTHORS: Rivin, A.N. and Cherpak, V.A.

TITLE: A Method of Measurement and Calculation of the Diffraction Coefficient of Microphones (Metod izmereniya i rascheta koeffitsiyenta difraktsii mikrofonov)

PERIODICAL: Akusticheskiy zhurnal, 1959, Vol 5, Nr 3, pp 345-350 (USSR)

ABSTRACT: A new method of experimental determination of the diffraction coefficient is described. This method is based on measurement of the ratio of potentials produced at the microphone output by a radiator similar to the microphone working (a) in a free field and (b) in a small closed chamber. The diffraction coefficient is defined as the ratio of the field and pressure sensitivities of the microphone. Two microphones of the same type are used: one serves as the radiator and the other as a receiver. Both the radiator and the receiver are first placed in a free field at a distance d apart and then in a small closed chamber of volume V . The ratio of the potentials recorded in the first and second cases at the microphone output (E_f/E_p) is determined. This ratio is given by:

$$E_f/E_p = (\pi V c^2 i_p^2 D^2) / (d f^2 i_p^2), \quad (2)$$

Card 1/4

SOV/46-5-3-11/32

A Method of Measurement and Calculation of the Diffraction Coefficient of Microphones

where c is the velocity of sound, f is its frequency, i_f^0 and i_p^0 are the currents in the radiator circuit in the free field and closed-chamber cases respectively, D' and D^0 are the diffraction coefficients of the two microphones used as the radiator and receiver respectively. When the radiator and the receiver have exactly the same shape and dimensions their diffraction coefficients are equal, i.e. $D' = D^0 = D$. If, furthermore, the currents i_f^0 and i_p^0 are made the same, we have the following relationship for the diffraction coefficient:

$$D = c/f \sqrt{(dE_f / \pi V E_p)}. \quad (3)$$

The effect of reflected waves on the experimental results can be reduced by using microphones of small dimensions, which makes it possible to decrease the distance between the radiator and the receiver. The authors describe also a method of theoretical calculation of the diffraction coefficient, which takes into account the non-uniform distribution of acoustic pressure across the microphone membrane and allows for the different diameters of the membrane and the microphone case. The measurement and calculation methods referred to above were used to determine the diffraction coefficients of condenser microphones type MIK-5 and type 4111 made by Brüel and Kjaer. The external diameter of

Card 2/4

SOV/46-5-3-11/32

A Method of Measurement and Calculation of the Diffraction Coefficient of
Microphones

the MIK-5 microphone was 17.5 mm and its membrane was of 11.5 mm diameter fixed by means of a ring which formed a cavity of 1 mm depth in front of the membrane. The 4111 type of microphone has an external diameter of 36 mm and its membrane of 20 mm diameter had no cavity in front of it. Measurements were made in a "live" laboratory. The results of measurements are given in Figs 2 and 3 as the frequency dependences of the diffraction coefficients of the two microphones (the experimental points are given by dots and the calculated curves are continuous). Curve 2 in Fig 2 and curve 1 in Fig 3 represent the frequency dependences of the diffraction coefficients calculated using the method described by the authors. Good agreement between these two curves and experimental points was obtained. Figs 2 and 3 show also the diffraction coefficient of the MIK-5 microphone (curve 3 in Fig 2) deduced from separate measurements of field and pressure sensitivities (Ref 3) and the manufacturer's data (curve 2

Card 3/4

SOV/46-5-3-11/32

A Method of Measurement and Calculation of the Diffraction Coefficient of
Microphones

in Fig 3) for the 4111 microphone. These two curves depart considerably from the experimental results showing large errors that are possible when insufficiently precise methods of measurement and calculation of the diffraction coefficient are used. There are 3 figures and 15 references, 4 of which are Soviet, 2 translations from English into Russian, 7 English and 2 German.

ASSOCIATION: Vsesoyuznyy n.-i. institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy, Moskovskaya obl. (All-Union Research Institute for Physico-Technical and Radio-Technical Measurements, Moskovskaya oblast)

SUBMITTED: November 22, 1958

Card 4/4

24(1)

SOV/46-5-3-24/32

AUTHORS: Pronenko, L.Z. and Rivin, A.N.

TITLE: Sound-Absorbing Coatings of Staple Glass Fibre for Anechoic Chambers
(Zvukopogloshchayushchiye pokrytiya iz shtapel'nogo steklovolokna dlya
zvukomernoy kamery)

PERIODICAL: Akusticheskiy zhurnal, 1959, Vol 5, Nr 3, pp 378-379 (USSR)

ABSTRACT: In 1958 the Merefyansk Glass Factory started to produce rigid glass-fibre plates suitable for shaping into sound-absorbing wedges. Three such wedges of 90 cm height and 9 mm apart were joined into blocks of 40 x 40 cm base. Such blocks were fixed 20 cm from a wall of a tube in which measurements were made. The space between the wedges and the wall was either left empty or filled with three layers of staple glass fibre of 16 cm total thickness (Fig 1); the best results were obtained with the space behind the wedges filled. Measurements carried out in a low-frequency interferometer of 40 x 40 cm² cross-section showed that sound absorbers consisting of glass fibre blocks, described above, and with the space between them and the wall filled by glass fibre layers, absorbed more than 99% of the incident acoustic energy in a wide range of frequencies, beginning from 62 c/s (the reflection coefficient of such

Card 1/2

SOV/46-5-3-24/32

Sound-Absorbing Coatings of Staple Glass Fibre for Anechoic Chambers

sound absorbers is shown as a function of frequency in Fig 2, curve 1). Curve 2 in Fig 2 shows the reflection coefficient of the same glass-fibre sound absorbers with the space behind the wedges and the wall left empty. For the sake of comparison, curve 3 of Fig 2 shows the values of the reflection coefficient of sound absorbers produced by the "Genest" Company (Western Germany); these absorbers were wedges of 100 cm length placed 10 cm from the wall, i.e. their total length was the same as that of the glass-fibre absorbers described above. There are 2 figures and 3 references, 2 of which are Soviet and 2 translations into Russian.

ASSOCIATION: Vsesoyuznyy n.-i. institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy, Moskovskaya obl. (All-Union Research Institute for Physico-Technical and Radiotechnical Measurements, Moscow Province)

SUBMITTED: January 31, 1959

Card 2/2

17.1350

S/115/60/⁸²⁵³⁰000/009/010/011
B012/B054

AUTHORS: Rivin, A. N. and Pronenko, L. Z.

TITLE: Investigation of Sound-absorbing Coats for Sound Measuring Chambers

PERIODICAL: Izmeritel'naya tekhnika, 1960, No. 9, pp. 54-56

TEXT: The authors describe investigations of sound-absorbing coats. They were made on an acoustic special low-frequency interferometer. With its aid it was possible to measure the sound reflection coefficient in the frequency range from 35-40 to 400 cps. The testing apparatus is briefly described. The authors investigated coats of ordinary drawn glass fiber wadding, of drawn starch-impregnated glass fiber boards, wedge-shaped coats of staple glass fiber boards (of the Merefyanskiy zavod (Merefa Works)), and a variant of the latter in the form of blocks of 3 wedges (900 mm long). The test results are diagrammatically shown in Figs. 1-4. The experiments showed that the last-mentioned coats guarantee a sound absorption of more than 99% in a wide frequency range from 60-62 cps upwards. The reflection

Card 1/2

83530

Investigation of Sound-absorbing Coats for
Sound Measuring Chambers

S/115/60/000/009/010/011
B012/B054

coefficient of individual samples varies by a maximum of 2%. Therefore, such coats are recommended for the large sound measuring chambers to be constructed. Imported samples of sound-absorbing coats were investigated for comparison. Results are shown in Fig. 4. Hence, it appears that the coats developed by the authors yield no worse, at certain frequencies even better sound absorption. There are 4 figures. X

Card 2/2

RIVIN, A.N.

Systematic errors in the reproduction of the unit of sound pressure
in the resonator pipe with a Rayleigh disk. Trudy inst.Kom.stand,
mer i izm.prob. no.45:23-27 '60. (MIRA 14:1)
(Sound--Measurement)

RIVIN, A.N., CHERPAK, V.A.

Reciprocity calibration of pressure microphones for sound measurement. Akust. zhur. 6 no.2:252-260 '60.

(MIRA 13:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radiotekhnicheskikh iznerey, Moskovskaya oblast'.

(Microphone)

S/058/62/000/005/062/119
A057/A101

AUTHORS: Rivin, A. N., Pronenko, L. Z.

TITLE: Sound-absorbing coatings for phonometer chambers

PERIODICAL: Referativnyy zhurnal, Fizika, no. 5, 1962, 41, abstract 56375 (V sb. "Arkhitektura, akustika", Moscow, Gosstroyizdat, 1961, 88-97)

TEXT: Results are presented on investigations of sound-absorbing coatings in form of pyramids and wedges, prepared from various glass fiber materials with the purpose to cover inner surfaces of a damped phonometer chamber. The investigations were carried out by measuring the sound reflection factor at a normal gradient in the tube of a low-frequency interferometer in the frequency range of 15 - 400 cps. Investigated were coatings of glass wool (drawn out glass fiber of 10⁻⁴ thickness) in form of covered gauze pyramids; of laminas of drawn out glass fibers glued with starch (glass separating lamelas); of slabs of (blast) stable glass fibers glued with resins; of imported sound-absorbing coatings from Western Germany and Switzerland. The effect of the dimensions of the resonant cavity between the base of wedges and the wall and of the width of the gaps between the wedges, forming the inlet openings of this resonator, was

Card 1/2

Sound-absorbing coatings for phonometer chambers

S/058/62/000/005/062/119
A057/A101

investigated. It is demonstrated that in case of the use of wedges of dense materials, showing a greater resistance to blasting ($\sim 30 - 40$ rel/cm), the resonance of oscillations in the cavity behind the wedges allows a considerable improvement of sound absorption at low frequencies, which are near the lower frequency limit of the coating. In this case the optimum dimensions of the resonant cavity and gaps between the wedges depend highly on the density of the applied glass fiber material and its resistance to blasting. For materials with small resistance to blasting ($\sim 10 - 15$ rel/cm) the resonant cavity behind the wedges does not improve the sound-absorption; better results can be obtained by filling the cavity with glass fiber material, or by using longer wedges. It is mentioned that in case of coatings of materials with low blast resistance without resonant cavity, it is not anymore necessary to keep an exact size of wedges, and thus the production and application of the coatings is easier.

A. Rivin

[Abstracter's note: Complete translation]

Card 2/2

RIVIN, A.N.

Securing the standard unity of the measurement of sound pressure.
Izv. tekhn. no. 9:51-53 S '61. (MIRA 14:8)
(Sound—Measurement)

L 19575-65 BSD/AFWL/ASD(a)-5/AS(mp)-2/AFETR/ESD(gs)

ACCESSION NR: AP5002066

S/0046/61/007/003/0324/0336

AUTHOR: Rivin, A. N.

TITLE: Anechoic chamber for sound measurements 9M

SOURCE: Akusticheskij zhurnal, v. 7, no. 3, 1961, 324-336 B

TOPIC TAGS: anechoic chamber, acoustic measurement, traveling wave

ABSTRACT: The author describes the construction and test results of a large anechoic chamber constructed by VNIIFTRI for standard microphone calibration and other precise acoustic measurements. The chamber is nearly rectangular in shape, with a width that varies between 6.4 and 6.9 m and a length between 12.4 and 12.9 m. The dimensions were made large enough to permit acoustic measurements in the free field of traveling waves with frequencies down to 60--70 cps. The total chamber volume is 370 m³. The sound absorbing chamber lining consisted of wedge shaped resin-impregnated fiberglass battens (150 kg/m³ dense, 1 m long, and 40 cm wide) purchased in West Germany. The dead space between the battens and the walls of the chamber and the distance between the bases of the battens were adjusted for minimum reflection and for maximum extension of the low-frequency

Card 1/2

L 19575-65

ACCESSION NR: AP5002066

6
limit. The techniques used to tie the battens together and to hang the acoustic ceiling are described. The results of tests of the sound field through the chamber are reported in detail, and indicate that the sound field in the working volume of the chamber is uniform to within ± 0.5 dB at distances 3--4 m from the sound emitter, in a wide frequency range starting with 60--70 cps. At lower frequencies the deviations from inverse proportionality to the distance increase and make precise acoustic measurements impossible. "The author thanks L. Z. Pronenko, Yu. V. Komonov, V. P. Golovanov, and V. S. Panteleyev for help in equipping the chamber and measuring the acoustic field. The technological design of the VNIIFTRI acoustic laboratory was developed by I. G. Rusakov." Orig. art. has: 12 figures.

ASSOCIATION: Vsesoyuznyy n.-i. institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy, Mosk. obl. (All-Union Scientific-Research Institute of Physicotechnical and Radiotechnical Measurements)

SUBMITTED: 01Jul60

ENCL: 00

SUB CODE: GP

NR REF SOV: 003

OTHER: 002

Card 2/2

KLIMOV, B.M.; ~~RIVIN, A.N.~~

Sound-absorbent coverings from wedge-shaped foam polyurethan.

Akust.zhur. 8 no.3:367-369 '62.

(MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh
izmereniy, Moskovskaya obl.

(Urethans)

(Absorption of sound)

RIVIN, D.L.

Otogenic abscesses of the brain. Zdrav.Bel. 8 no.7:34-35 J1 '62.

(MIRA 15:11)

1. Iz Otorinolaringologicheskogo otdeleniya (zav. Sh.I.Karasik)

Gomel'skoy oblastnoy bol'nitsy (glavnyy vrach F.E.Kovalyuk).

(BRAIN--ABCESS)

(EAR--DISEASES)

RIVIN, D.L.

Clinical aspects of foreign bodies in the otorhinolaryngological organs. Zdrav. Bel. 5 no.5:54 My '59. (MIRA 12:8)

1. Iz Gomel'skoy detskoy bel'nitsy (glavnyy vrach S.V. Zaykova)
(FOREIGN BODIES(SURGERY)) (OTORHINOLARYNGOLOGY)

13

CR

Laminated plastic masses. G. S. Petrov and I. Ya. Rivin. Russ. 33,161, March 31, 1944. Thin sheets of plastic masses are combined by pressing, with paper or a fabric impregnated with resols as a binder. Or the surface of the sheets may be powdered with Bakelite resins in the "A" stage, or with varnishes that are able to cement individual sheets on heating accompanied by pressing or rolling.

RIVIN, D.L.

Otogenic suppurative meningitis. Zdrav. Bel. 9 no.3:56-58

Mr.'63

(MIRA 16:12)

1. Iz otorinolaringologicheskogo otdeleniya (zav. Sh.I.Karasik)
Gomel'skoy oblastnoy bol'nitsy.

RIVIN, D.L.

Removal of a foreign body from the small bronchus under the control
of an x-ray screen. Zhur. ush., nos. i gchl. bol. 21 no.5:79 S-0 '61.
(MIRA 15:1)

1. Iz otdeleniya bolezney ukha, gorla i nosa (zav. - Sh.I.Karasik)
Gomel'skoy oblastnoy bol'nitsy.
(BRONCHI FOREIGN BODIES) (BRONCHI RADIOGRAPHY)